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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/798,190	03/11/2004	James M. Hume	P-121896.0002.032	5304

7590 02/16/2005

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EXAMINER

FLETCHER III, WILLIAM P

ART UNIT	PAPER NUMBER
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1762

DATE MAILED: 02/16/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

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<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/798,190	HUME, JAMES M.	
	<b>Examiner</b>	<b>Art Unit</b>	
	William P. Fletcher III	1762	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 25 January 2005.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 18-32 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 18-23 is/are rejected.
- 7) ☒ Claim(s) 24-32 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 11 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>6/4/04</u> . | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Response to Amendment***

1. Receipt is acknowledged of applicant's preliminary amendment filed 1/25/2005. This amendment renders the restriction requirement mailed 9/29/2004 moot. To clarify the record at this point in the prosecution, claims 18-32 are pending.

2. The examiner notes that the above-mentioned preliminary amendment fails to meet the requirements of 37 CFR 1.121, as amended 6/30/2003 (see 68 Fed. Reg. 38611, June 30, 2003). Specifically, claims 1-17, which are cancelled, are not listed with the proper status identifier. In order to expedite prosecution, the examiner is forgoing issuing a Notice of Non-Compliant Amendment in favor of this Office action. Applicant is advised, in future amendments, to list claims 1-17 with the rest of the claims in the following fashion: Claims 1-17 (cancelled).

### ***Specification/Priority***

3. The CROSS-REFERENCE TO RELATED APPLICATIONS section should be updated to reflect that application 09/532,400 has issued as US 6,706,384 B1.

### ***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. **Claims 18, 20, 21, 22, and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bomhard (US 4,426,817 A).**

Reference is made to Figs. 1 & 2; 1:5-15 and 35-50; 2:50-67; and 4:10-17.

This reference teaches a process in which a polyurethane foam liner material is spray-applied to the inner lining of a storage tank. A component of the wall of the storage tank is concrete, which reads on applying the foam liner to 'a concrete structure.' Insofar as the foam layer is applied to the surface without any intervening layers, it is the examiner's position that this reads on applying the foam 'directly to said surface of said concrete structure.' The foam liner is disclosed as covering the surface of the inner lining of the storage tank and providing a liquid-tight seal thereon, which reads on the foam liner's being 'a surface layer and a barrier layer.' Although this reference does not explicitly teach curing the polyurethane foam liner material, it is the examiner's position that this step is both inherent and obvious: such a liner material cannot provide adhesion to the underlying surface and be liquid-tight — essentially, the liner material can have no utility in the art — unless it is cured.

This reference explicitly teaches neither that the surface of the concrete structure is cleaned prior to application of the foam liner material, nor that said cleaning involves pressure washing and heat drying the surface.

It is the examiner's position that it is well-known in the coating art to clean a surface prior to the application of a coating material. For example, such cleaning promotes adhesion of the coating material to the surface and prevents contamination of the applied coating material.

Consequently, it would have been obvious to one of ordinary skill in the art to modify the process of Bomhard so as to clean the surface of the concrete structure prior to application of the foam liner material. One of ordinary skill in the art would have been motivated to do so by the above-cited advantages.

Further, pressure washing and heat drying are expedients well-known to those in the art for cleaning surfaces. Consequently, it would have been obvious to one of ordinary skill in the art to modify the process of Bomhard so as to clean the surface by power washing and heat drying. One of ordinary skill in the art would have been motivated to do so by the desire and expectation of successfully cleaning the surface.

6. **Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bomhard (US 4,426,817 A), as applied to claim 18 above, in further view of Grinshpun et al (US 5,807,514 A).**

Bomhard is applied again here for the reasons detailed above.

While the foam liner material is disclosed as “preferably polyurethane foam,” the disclosure is clearly not limited thereto.

Grinshpun teaches that both polyurethane foams and polyurea foams are known to those of ordinary skill in the art as suitable insulation foams (5:41-53).

It would have been obvious to one of ordinary skill in the art to modify the process of Bomhard so as to utilize, as the insulating foam, polyurea foam. One of ordinary skill in the art would have been motivated to do so by the desire and expectation of successfully providing an insulating foam on the surface of the concrete structure arising from the clear teaching of Grinshpun that both polyurethane foam and polyurea foam are known as suitable insulating foams.

7. **Claim 23 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bertram (US 5,268,392 A) in view of Hume et al. (US 5,618,616 A).**

Reference is made in Bertram to 1:5-15; 3:40-50; 4:42-5:6; and 6:25-33.

Bertram teaches a process in which a polyurethane foam is applied directly to a concrete surface. The foam layer provides a restorative, strengthening, and protective layer on the concrete surface. Although this reference does not explicitly teach curing the polyurethane foam liner material, it is the examiner's position that this step is both inherent and obvious: such a liner material cannot be strong, restorative, and/or protective — essentially, the liner material can have no utility in the art — unless it is cured.

This reference does not explicitly teach that the surface of the concrete structure is cleaned prior to application of the foam liner material.

The examiner's position as to the obviousness of such a step is incorporated again here. Nevertheless, Hume teaches a process in which a liner material is applied to a concrete surface. The surface is initially cleaned to remove any contaminants that might interfere with the subsequent coating (2:46-55).

It would have been obvious to one of ordinary skill in the art to modify the process of Bertram so as to clean the concrete surface prior to application of the polyurethane foam. One of ordinary skill in the art would have been motivated to do so by the desire and expectation of successfully removing contaminants from the surface, thereby facilitating coating of the foam.

***Allowable Subject Matter***

8. Claims 24-32 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

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9. The following is a statement of reasons for the indication of allowable subject matter: The prior art neither teaches nor reasonably suggests a foam material that cures into two or three separate layers, as required by these claims.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to William P. Fletcher III whose telephone number is (571) 272-1419. The examiner can normally be reached on Monday through Friday, 9 AM to 5 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Shrive P. Beck can be reached on (571) 272-1415. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

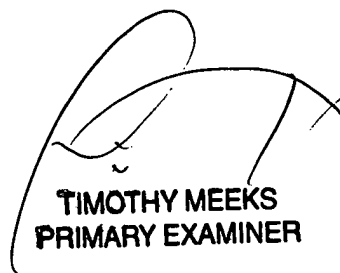
Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

*WPF 2/14/2005*

William P. Fletcher III

Examiner

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TIMOTHY MEEKS  
PRIMARY EXAMINER